Sheet 1 of 23

Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lininski and Christopher I. Wrighton

Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003
Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593

1/23 FIG.1a

5merTcf-SV40-Luc reporter construct (CTL501):

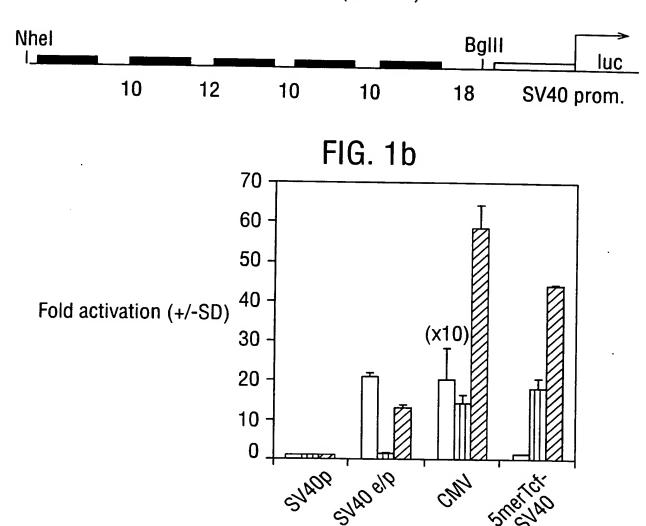


FIG. 1c

Ⅲ HepG2

☑ SW480

5merTcf-SV40 (CTL501) antisense strand

TTGAGATGCAGATCTGATAAAGGTGCATTTAGAGATCAAAG

GTAGGACTCTTGATCAAAGGACTGAATTCCTTGATCAAAGGTGCATTTAG

AGATCAAAGGTAGGACTCTTTGATCAAAGGGACTAGTAAGCTTGCTAGC

ACGCGTAAGAGCTCGGTACC

☐ HeLa

Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT

Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton Docket No. HARR0032-101 Filed: June 26, 2003 Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593

FIG.2a

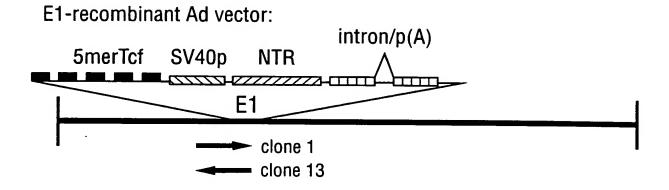
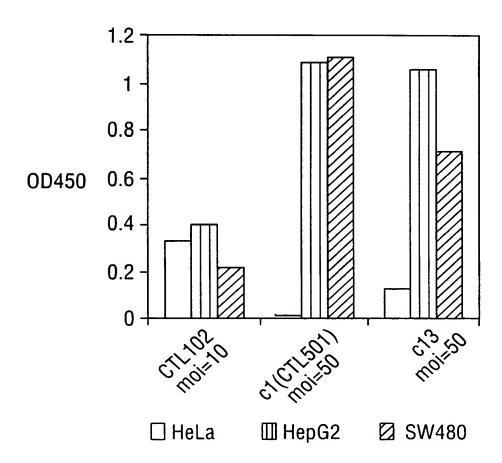
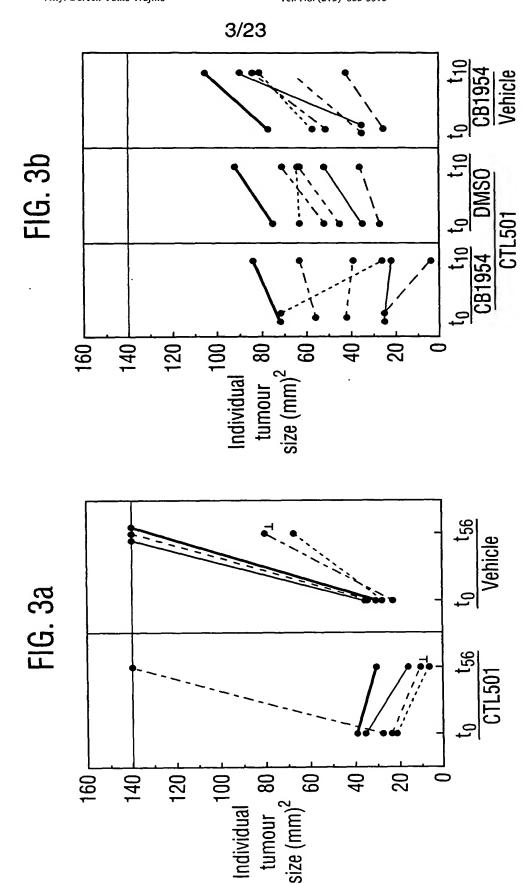


FIG. 2b



Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003 Filed: June 26, 2003 Tel. No. (215) 665-5593 Atty: Doreen Yatko Trujillo

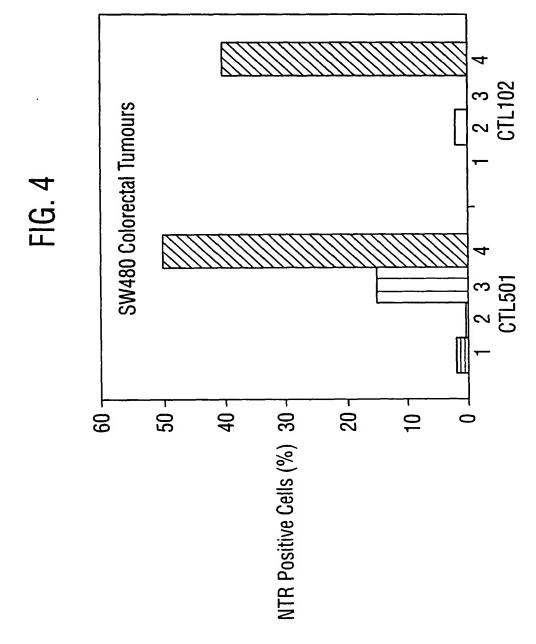


Sheet 4 01 23

Application Serial No.: Not Yet Assigned

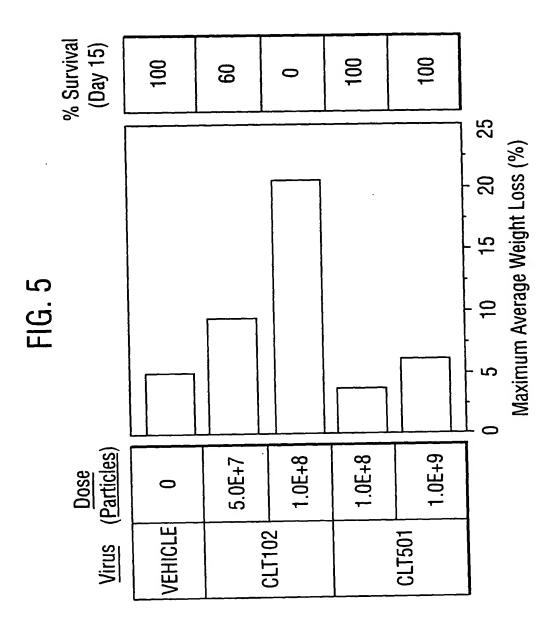
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003

Attac Doreen Yatko Trujillo Tel. No. (215) 665-5593



Sheet 5 of 23

Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003
Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593



Sheet 6 of 23

Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003
Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593

6/23 FIG. 6a

5merTcf-EIBTATA-Luc reporter construct (CTL502):

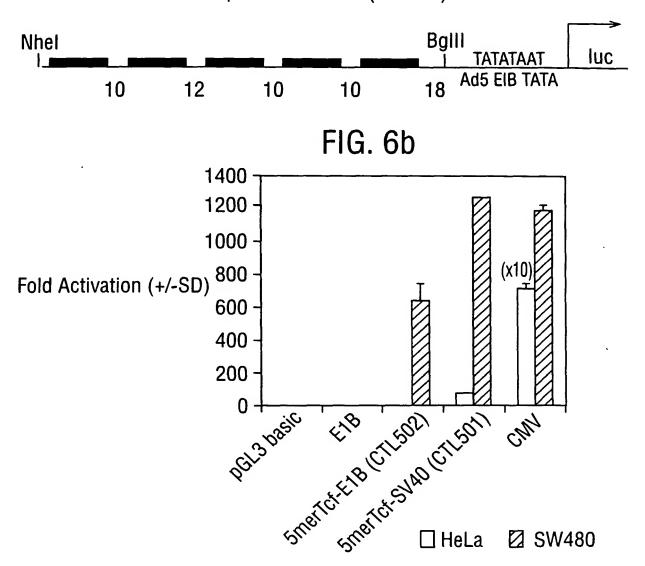


FIG. 6c

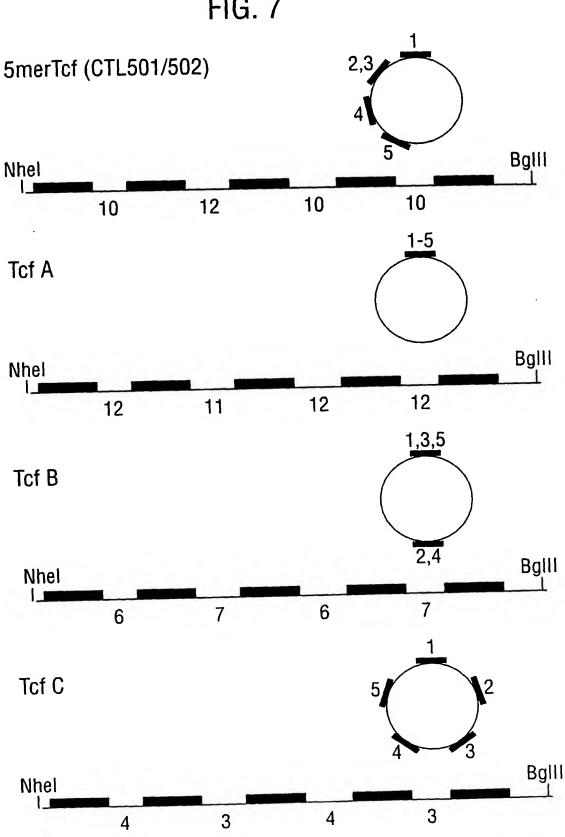
EIBTATA clone 2 antisense strand

GGATGCCAAGCTTTTTAGCTTCCTTAGCTCCTGAAAATCTCGCCAAGCTGA
TGAATTCGAGCTGGCGCATTATATACCCTCTAGAGTCGACGGATCGAGATC
TCGAGCCCGGGCTAGCACGCGTAAGAGCTCGGTACC

Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT

Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003
Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593





Sheet 8 of 23

Application Serial No.: Not Yet Assigned

Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT

Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton Docket No. HARR0032-101 Atty: Doreen Yatko Trujillo

Filed: June 26, 2003 Tel. No. (215) 665-5593

FIG. 8a

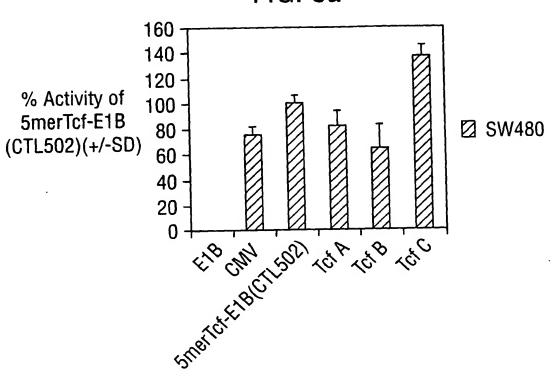
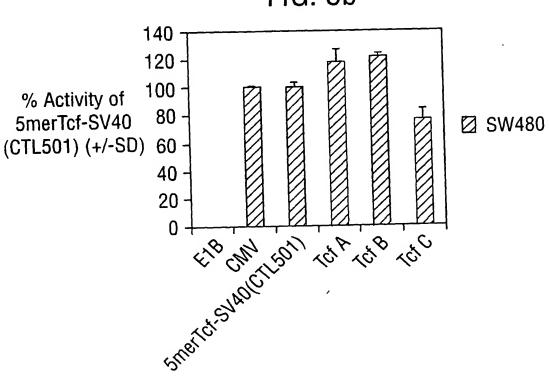


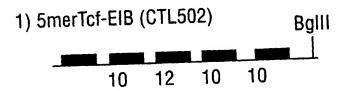
FIG. 8b



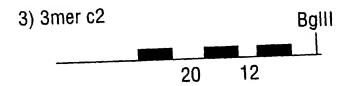
Sheet 9 of 23

Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003
Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593

FIG. 9a

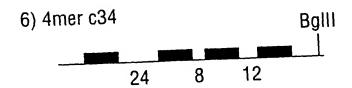






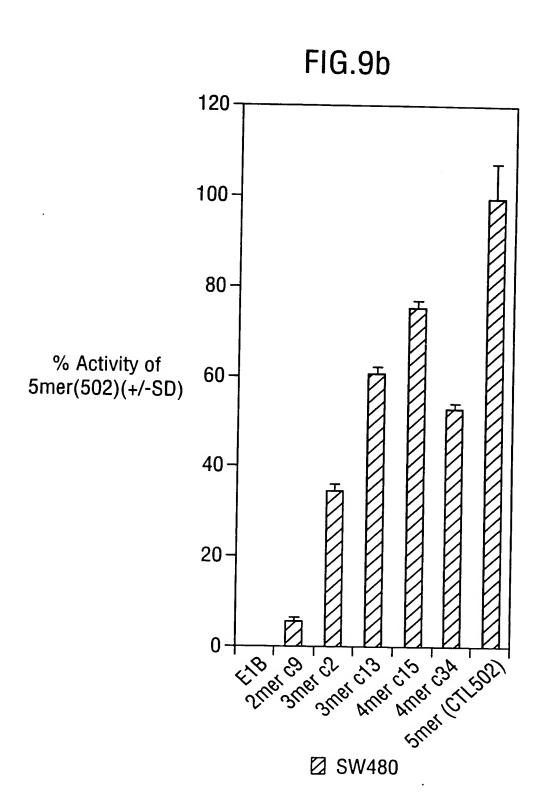






Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT

Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101
Atty: Doreen Yatko Trujillo
Tel. No. (215) 665-5593



Sheet 11 of 23 Application Serial No.: Not Yet Assigned

Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton Filed: June 26, 2003

Docket No. HARR0032-101 Atty: Doreen Yatko Trujillo

11/23

FIG. 9c (i)

Tel. No. (215) 665-5593

2merTcf-E1BTATA clone 9 antisense strand

AATTCAGGTGCAATTTAAAGGTAGGAAACTCTT*GATCAAAGG*ACTAGTAAG

3merTcf-E1BTATA clone 2 antisense strand

CTTGCTAGCACGCGTAAGAGCTCGGTACC

ATCGAGATCTGATAAAGGTGCATTTAGA*GATCAAAGG*TAGGTTACT CTT*GATCAAAGG*ACTGAATTCAGGAAACTCTT*GATCAAAGG*ACTAGTAAGCT TGCTAGCACGCGTAAGAGCTCGGTACC

3merTcf-E1BTATA clone 13 antisense strand

ATCGAGATCTGATAAAGGTGCATTTAGA*GATCAAAGG*TAGTCACAGGTGC AATTTAGA*GATCAAAGG*TAGGAATT*GATCAAAGG*ATAGTAAGCTT**GCTAGC** ACGCGTAAGAGCTCGGTACC

4merTcf-E1BTATA clone 15 antisense strand

ATCG**AGATCT**GATAAAGGTTCTT*GATCAAAGG*ACTGAATTCCTT*GATCAAA GG*TGCAATTTAGA*GATCAAAGG*TAGGAAACTCTT*GATCAAAGG*ACTAGTAA GCTTGCTAGCACGCGTAAGAGCTCGGTACC

Sheet 12 of 23

Application Serial No.: Not Yet Assigned

Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton Docket No. HARR0032-101 Filed: June 26, 2003 Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593

12/23

FIG. 9c (ii)

4merTcf-E1BTATA clone 34 antisense strand

 $\mathsf{ATCG} \mathbf{AGATC} \mathsf{GATAAAGGTGCATTTAGAC} \mathsf{GATCAAAGG} \mathsf{TAGGTTACTCTT} \underline{\mathsf{GA}} \ .$ $\underline{\mathit{TCAAAGG}}{AAGTTCCTT}\underline{\mathit{GATCAAAGG}}{TGCAATTTAGAGAAGGTAGGAAACTCT}$ T*GATCAAAGG*ACTAGTAAGCTT**GCTAGC**ACGCGTAAGAGCTC**GGTACC**

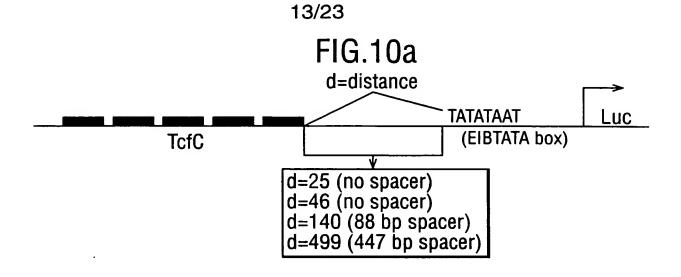
Sheet 13 of 23 Application Serial No.: Not Yet Assigned

Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipincki and Ch.

Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101

Atty: Doreen Yatko Trujillo

Filed: June 26, 2003
Tel. No. (215) 665-5593



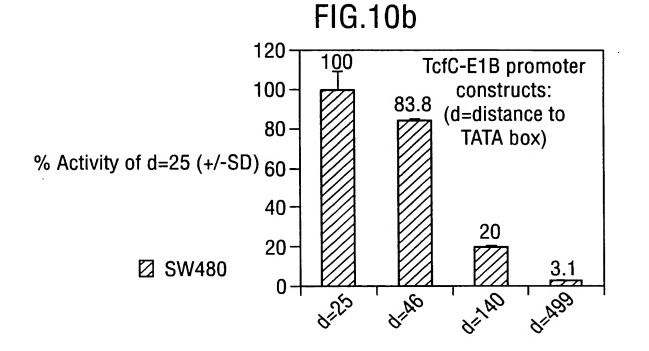


FIG.10c /TcfC-EIBTATA (d=25) clone 6 antisense strand

TACCAACAGTACCGGAATGCCAAGCTAGCTTTTTAGCTTCCTTAGCTCCTG

AAAATCTCGCCAAGCTGATGAATTCGAGCTGGCGCATTATATACCCTCTG

ATAAAGGTGCATTTAGA*GATCAAAGG*TAT*GATCAAAGG*ACTT*GATCAAAGG*T

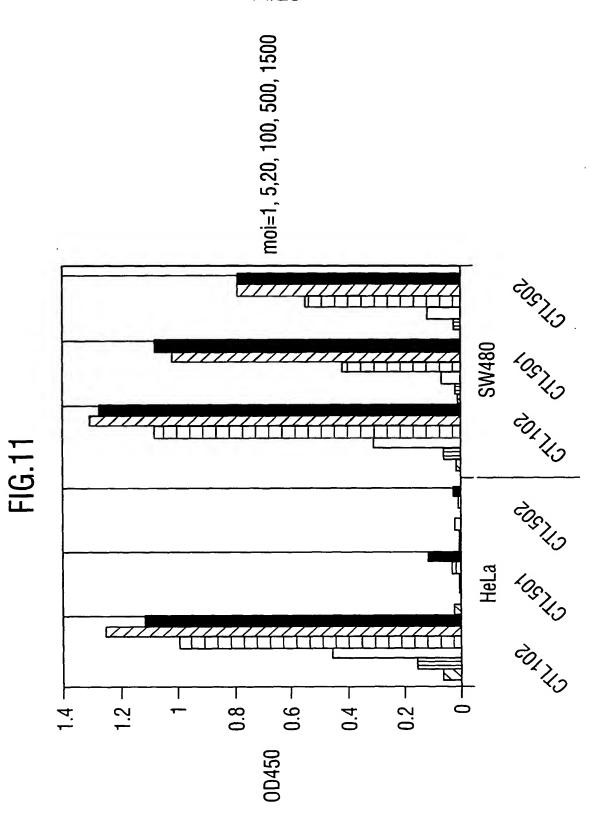
GA*GATCAAAGG*TATT*GATCAAAGG*ACTAGAGCTTACTTAGATCGCAGATCTC

GAGCCCGGGCTAGCACGCGTAAGAGCTCGGTACCTATCG

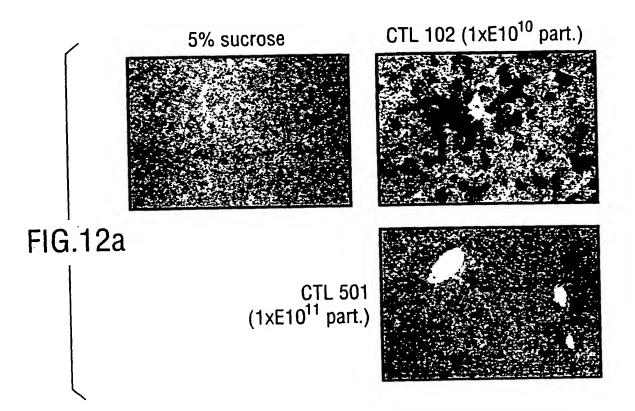
Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton

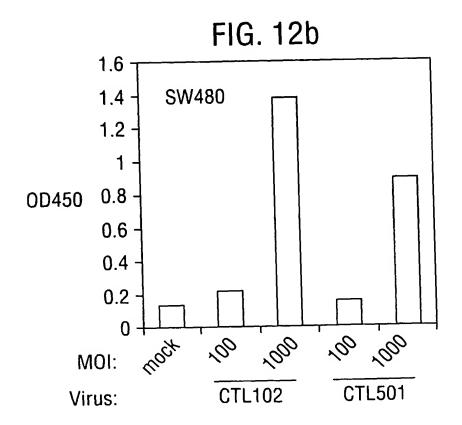
Docket No. HARR0032-101 Filed: June 26, 2003 Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593





Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003
Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593



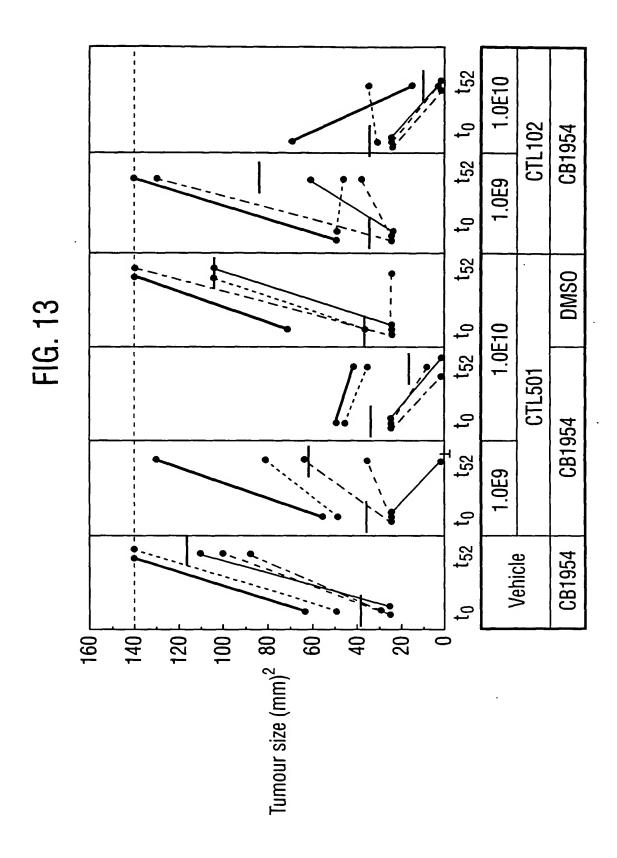


Sheet 16 of 23

Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT

Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003
Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593

16/23



Sheet 17 of 23

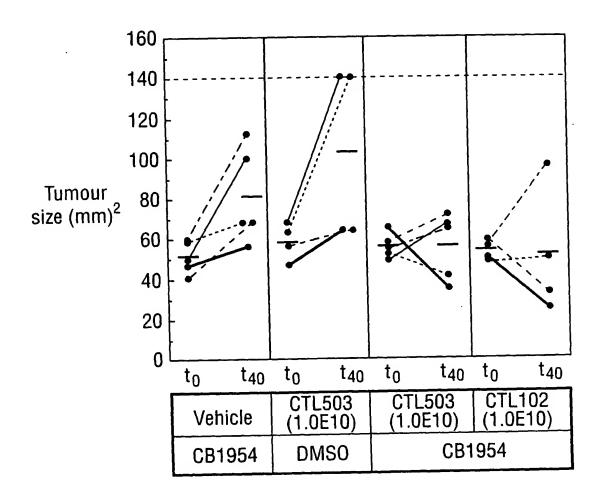
Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003

Atty: Doreen Yatko Trujillo

Tel. No. (215) 665-5593

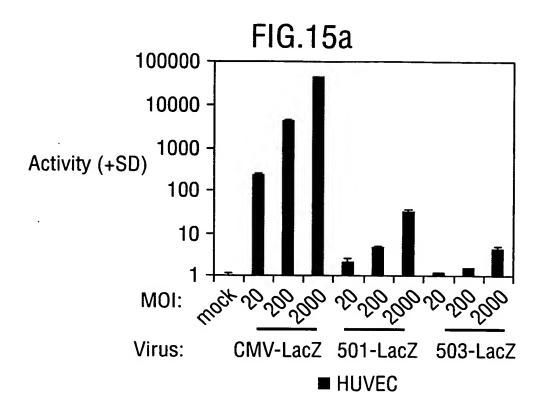
1//23

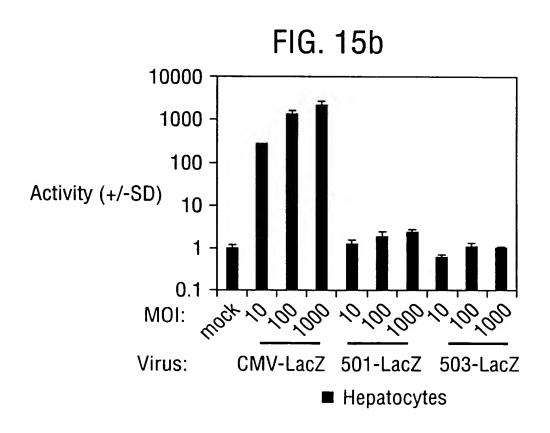
FIG. 14



Sheet 18 of 23

Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003
Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593





Sheet 19 of 23
Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton Docket No. HARR0032-101 Filed: June 26, 2003 Filed: June 26, 2003 Tel. No. (215) 665-5593

Atty: Doreen Yatko Trujillo

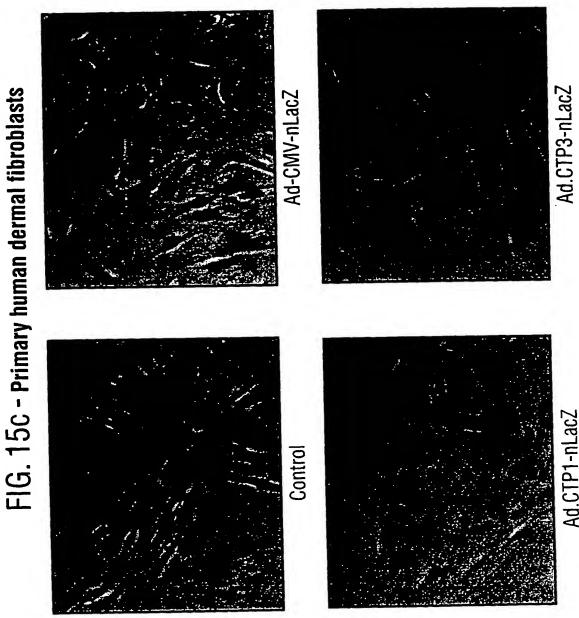


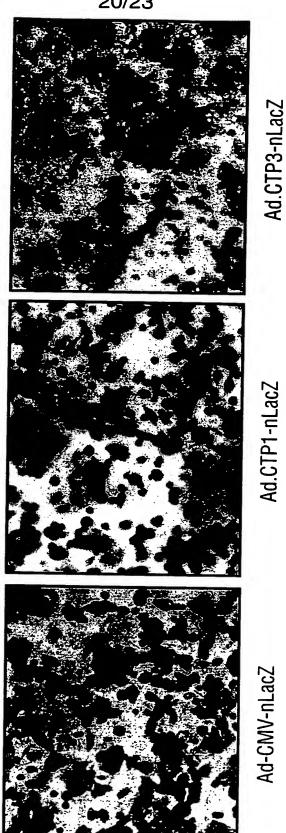
FIG. 15d - SW480 colorectal cancer positive control

Sheet 20 or 23

Application Serial No.: Not Yet Assigned

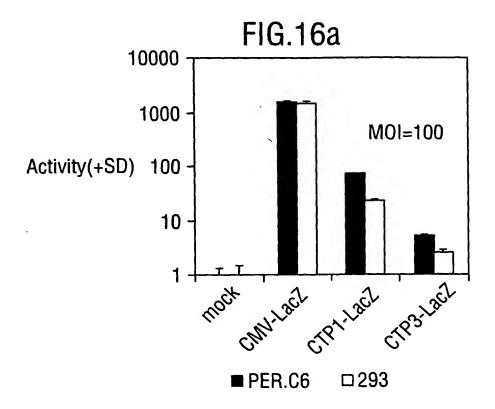
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003

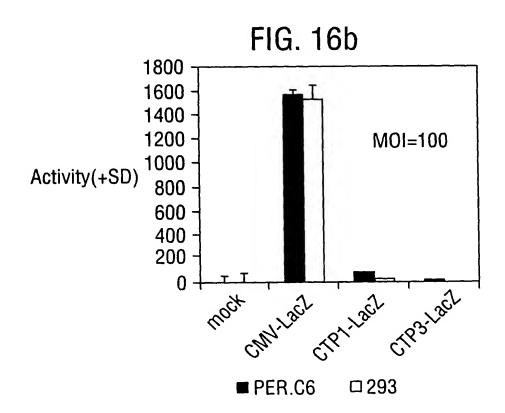
Attv: Doreen Yatko Trujillo Tel. No. (215) 665-5593



Sheet 21 of 23

Application Serial No.: Not Yet Assigned
Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101
Tilled: June 26, 2003
Atty: Doreen Yatko Trujillo
Tel. No. (215) 665-5593





Sheet 22 of 23

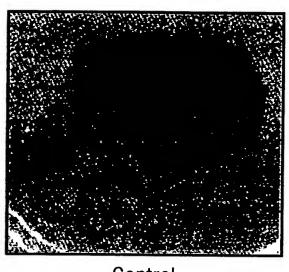
Application Serial No.: Not Yet Assigned

Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003

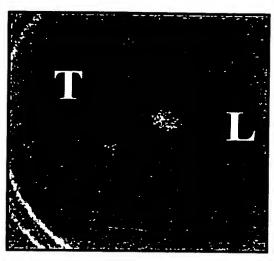
Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593

22/23

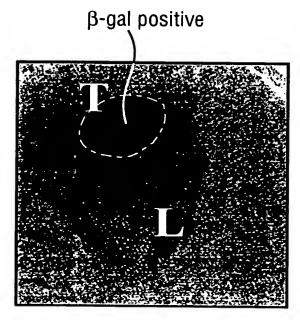
FIG.17



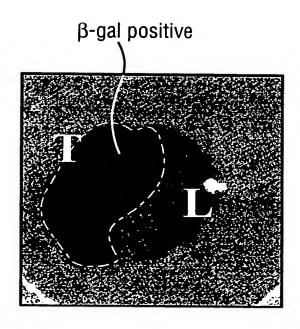
Control



Ad-CMV-nLacZ



CTP1-nLacZ



CTP3-nLacZ

Sheet 23 of 23

Application Serial No.: Not Yet Assigned

Title: GENE EXPRESSION USING T CELL FACTOR RESPONSIVE ELEMENT
Inventor: Lawrence S. Young, Kai S. Lipinski and Christopher J. Wrighton
Docket No. HARR0032-101 Filed: June 26, 2003

Atty: Doreen Yatko Trujillo Tel. No. (215) 665-5593

